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(54) Title: FLUORESCENT PROTEINS AND CHROMOPROTEINS FROM NON-AEQUOREA HYDROZOA SPECIES AND
METHODS FOR USING SAME

(57) Abstract: The present invention provides nucleic acid molecules encoding a fluorescent and chromo- proteins and mutants, variants and derivatives thereof, as well as proteins and peptides encoded by these nucleic acids. The nucleic acid molecules and proteins of interest are isolated from non-Aequorea Hydrozoa species. The proteins of interest include yellow fluorescent protein, phiYFP, from Phialidium sp., green fluorescent protein hydr1GFP and purple chromoprotein, hm2CP from hydroid medusae of sub-order Anthomedusae. Also of interest are proteins that are substantially similar to, or derivatives, or homologues, or mutants of, the above-referenced specific proteins. Also provided are fragments of the nucleic acids and the peptides encoded thereby, as well as antibodies specific to the proteins and peptides of the invention. In addition, host-cells, stable cell lines and transgenic organisms comprising above-referenced nucleic acid molecules are provided. The subject protein and nucleic acid compositions find use in a variety of different applications and methods, particularly for labeling of biomolecules, cell or cell organelles. Finally, kits for use in such methods and applications are provided.

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